



USA GARDENER

Guide To Growing Your Favorite Vegetables

<http://usagardener.com>

Table of Contents

COPYRIGHT.....	2
DISCLAIMER.....	2
INTRODUCTION.....	3
PLANNING & PREPARING YOUR GARDEN.....	4
VEGETABLE YIELD CHART.....	7
ASPARAGUS.....	8
BUSH BEANS.....	9
BROAD BEANS.....	10
LIMA BEANS.....	11
POLE BEANS.....	12
BEETS.....	13
BROCCOLI.....	14
BRUSSELS SPROUTS.....	15
CABBAGE.....	16
CARROTS.....	17
CAULIFLOWER.....	18
CELERY.....	19
CORN.....	20
CUCUMBER.....	21
KALE.....	22
LETTUCE.....	23
ONIONS.....	24
PEAS.....	26
POTATOES.....	27
PUMPKINS.....	28
RADISH.....	29
SQUASH & ZUCCHINI.....	30
SPINACH.....	31
TOMATOES.....	32
ADDITIONAL USA GARDENER RESOURCES.....	34
RECOMMENDED TOP-RATED GARDEN EQUIPMENT & TOOLS.....	35
RECOMMENDED SEEDS & ORGANIC PEST CONTROL.....	35



COPYRIGHT

This document (eBook), The USA Gardener “Guide to Growing Your Favorite Vegetables” is Copyright ©2009, Henry Reinders, usagardener.com, All Rights Reserved. This eBook may not be altered in any way. You may not reproduce in whole or part, any portion of this document **except as outlined below**. You may not distribute this document as your own work. Credit & Copyright to usagardener.com must remain in all distribution, in any format.

Under “NO” circumstance, may you charge a fee for this eBook.

You may distribute this eBook (in unlimited quantity) in its original PDF format, or as a printed booklet provided this eBook is not altered in any way. Content, layout, information and links must remain in the document in their original format.

You may make this eBook available for download on your website free of charge via a link to the eBook on the usagardener.com website, or by placing the eBook on your own server, and linking to the unaltered file on your server. You may offer this eBook as a bonus in any legal promotion (no spam, adware or spyware) provided “NO” currency value is placed on this eBook anywhere in said promotion.

DISCLAIMER

While the author has made every effort to provide accurate data and Internet addresses at the time of publication, neither usagardener.com nor the author assumes any responsibility for errors, or the results you may have from the use of the data in this eBook, or third party recommended products. Further, the author does not have any control over and does not assume any responsibility for author or third party websites, their products and their content.



INTRODUCTION

The USA Gardener website was originally developed as a simple, easy to use gardening reference. Going by the feedback received on the website, visitors enjoy the website, its simple format and easy navigation. Feedback on the website included numerous requests for an eBook on growing vegetables based on the same information found on the website – a booklet that could be downloaded and printed for later reference.

This eBook is in response to these requests, and is provided free of charge to anyone interested in gardening. It is a condensed version of the information available at <http://usagardener.com> and designed as a quick reference that gardeners can print anytime they wish – in part or whole.

Each page within this eBook is setup so you can print out only what you require. If you just need information on carrots, all information required for carrots is on a single page and you can print just that page. All vegetable pages are designed in this format.

Where a subject is too long for the purpose of this eBook, links are provided to additional information on the Usagardener.com website. In addition, I may include links to information on third party websites, useful products, or other eBooks I think are worth checking out.

Vegetables selected for publication in this eBook are based on the most frequently visited vegetable pages on USA Gardener. If you cannot find a vegetable in this eBook, please visit usagardener.com for additional gardening and growing information on many other vegetables, herbs, fruits, flowers and more.

Please check our resources section on page 34 & 35 for links to additional online information.

Wishing you success in all your gardening projects,

[Henry Reinders](#)

Author/Publisher of <http://usagardener.com>



PLANNING & PREPARING YOUR GARDEN

Planning the vegetable garden is the most important part of gardening. The size of garden, best location, plant selection are all very crucial to a successful garden. There are some basic steps to planning a garden that will bring you years of joy and a fruitful harvest.

Listed below are important considerations when planning your garden. Planting the wrong crops in the wrong place can drastically reduce yields and in some cases attract pests or initiate plant diseases. Plans should allow for crop rotation as well - growing a particular vegetable in the same spot year after year may allow certain pests to thrive and destroy your crops. Companion planting is important. A must read, is the highly rated book [*Carrots Love Tomatoes : Secrets of Companion Planting for Successful Gardening*](#)

When to Start - Frost Dates?

The USA Gardener frost date charts for the USA & Canada are too long to fit into this eBook. Please visit the following links for the complete list of frost dates for each country. [Hardiness zones](#) are also available on the usagardener.com website.

For USA Frost Dates Visit:

http://usagardener.com/breaking_ground/frost_dates_usa.php

For Canadian Frost Dates Visit:

http://usagardener.com/breaking_ground/frost_dates_canada.php

Garden Size:

The first step to consider is the size of your garden. To determine this, decide how many vegetables you want to grow for you and your family? If you have lots of room and you love to garden, a big garden may be your choice - you can always give away what you don't need. If you plan on canning or freezing, a larger garden should be considered.

Make a list with the vegetables you want to grow, and how much – See the yield chart on page 7. You can then determine the area required for each vegetable.

Location:

Once you have decided what size to make your garden, you will need to select a location. If possible, pick a spot with full sun that is not shaded by trees or buildings. If you have to plant where partial shade may affect plants, be sure to plant shade tolerant plants in that area. Lack of sun can keep some plants to moist and encourage disease, slugs and other pests. If you live in a very hot climate, this may not be an issue. Here is a list of important factors when picking your location:

- Full sun with southern exposure is the best.
- Best soil on your property - soil conditions can vary drastically on the same property.
- Avoid low areas subject to flooding and constant water saturation - too wet and plant roots will suffer.
- Avoid areas where the ground is too sandy or gravel - water may drain to quickly.
- Watering supply - If your garden is 300 feet away from the closest water supply, water pressure may be an issue, as well as hoses and the size of hose required - at 300 feet, you may need 3/4"



hose to provide sufficient water and pressure. If your garden is uphill from your water source, this will further reduce pressure.

Location in relation to your home is not critical. Don't think that a garden close to the house will deter deer and other animals. They will come right up to your home at night. A herb garden near the house is very handy when you need a few herbs for cooking.

Layout:

Your layout is very important. To prevent shading of other crops, you will want tall crops such as corn, sunflowers and trellis vegetables at the most northern part of the garden - successive vegetables should be laid out according to mature height with the lowest planted at the south end of the garden.

Crop rotation is important. For example, if you are planting corn, never plant a single row right across the back of the garden (see our grow guide), corn requires cross-pollination and is best planted in 3 or more rows.

In addition to rotation, soil nutrients and pH are important and you can save lots of work by testing the soil and matching plants to the soil test results. If the soil is the same throughout the garden, you may need to add various amendments to accommodate certain vegetables.

Container Gardening:

If you have no good soil on your property and do not wish to spend time on soil building, container gardening may be the way to go, for many gardeners, it is preferred. Container gardens offer some advantages as follows:

- Less bending over - you can make them as high as you wish - subject to design.
- You can add top quality soil.
- Less tilling which is better for soil condition.
- Row covers can be secured more easily.
- Depending on design, raised beds can serve as cold frames allowing for earlier planting. A separate cover(s) may have to be built for this purpose.
- Work well on small properties when a garden in one spot may not be possible.

Rototilling:

Spring and fall are those times of the year that we start thinking about turning the soil in our gardens. Both of these seasons bring with them certain requirements for our gardens that must be done if we are to keep our gardens productive and healthy. What many gardeners don't know, is rototilling the garden is a little more involved than they may think.

There are several very important things to know before you start up the rototiller and begin working your way through the garden.

Never Rototill your garden when the ground is wet. It should be moist enough to squeeze into a ball but still crumble with very light pressure. If the ground is too wet, you will compact the ground as you walk on it, forcing valuable air from the soil. Unless you find the idea of sweating in the hot sun with airborne dirt covering your body appealing, pick a day with little or no wind to do your rototilling.



A good rule of thumb for rototilling is to only turn soil if it is really necessary. Many little creatures are busy working the soil for you and turning it over does upset this process. Areas that do not require seeding, such as flower beds, can easily be worked gently with a spade, hoes and other garden tools.

Vegetable gardens are different, most gardeners start from seed and a fine soil structure is preferred for this purpose. In addition, compost and aged manure is generally added 2 to 3 weeks before planting. Till only as deep as you need to - Lettuce and other leaf vegetables do not require deep tilling, many root vegetables can be grown in raised hills/rows (some actually do better this way). I personally till between 6 to 8 inches in depth for root vegetables and 4 to 6 inches for leaf vegetables.

Fall is the time of year to add soil balancers like lime and other stronger additives. To strong for spring time - it would be detrimental, or even fatal to seeds and young plants. If soil test require the addition of such items, add them with the minimum amount of rototilling possible. You can add compost and manure now instead of in the spring, allowing microorganisms, insects etc to get a head start for spring.

If you do this now, a light rototilling in the spring is all that is required. If your garden is on a steep slope, it is not recommended to loosen soil until after winter snows have disappeared - since loose soil is left exposed all winter, subject to erosion with spring runoff and spring rains.

Spring Rototilling:

Ideally, you will want to rototill your garden about 1 week prior to planting (unless you are expecting rain which can compact the soil), adding your compost and manure at this time (if you were unable to do so in the fall). This will allow the microorganisms, insects etc to re-establish a little (tilling upsets this balance temporarily) and begin their handy work prior to planting your seeds and transplants.

Please Note: Do not use fresh compost material (not decomposed), or green fresh manure in the spring. Manure may be too hot (burns plant roots and seeds) and both may contain many weed/grass seeds not killed during the normal decomposing process.

Are you looking for a lightweight all around great rototiller?

I highly recommend the Mantis Tiller. It is very well made, very versatile and will easily handle the average size garden, as well as container gardens – best of all, pricing starts at Just \$349.00 making it one of the least expensive available. For more information visit:

<http://usagardener.com/resources/mantis.php>

For information on soil building and amendments visit:

http://usagardener.com/breaking_ground/how_to_make_good_soil.php

For information on fertilizer, manure and composting visit:

http://usagardener.com/breaking_ground/composting_manure_and_fertilizer.php



VEGETABLE YIELD CHART

The following yield chart is based on a 15 ft row (4.5 m) and is provided as a rough guide only. Yields will vary subject to location, soil condition, weather, seeds used, gardening ability and so on.

Asparagus - 4.5 Lbs
Bean, lima (bush) - 4 Lbs
Bean, snap (bush) - 15 Lbs
Beets 20 Lbs
Broccoli - 11 Lbs
Carrot - 20 Lbs
Cabbage - 22.5 Lbs
Cauliflower - 15 Lbs
Chard - 11 Lbs
Corn - 18 (ears) Lbs
Cucumber, slicing - 21 Lbs
Cucumber, pickling - 27 Lbs
Garlic - 6 Lbs
Eggplant - 15 Lbs
Kohlrabi - 6 Lbs
Lettuce, head - 7 Lbs
Lettuce, leaf - 7 Lbs
Muskmelon - 15 Lbs
Mustard greens - 11 Lbs
Okra - 16 Lbs
Onion, bulb - 17 Lbs
Pea - 3 Lbs
Pepper, bell - 20 Lbs
Potato, sweet - 30 Lbs
Potato, white - 36 Lbs
Spinach - 10 Lbs
Squash, summer - 52 Lbs
Squash, winter - 45 Lbs
Tomato - 42 Lbs
Turnip - 27 Lbs



ASPARAGUS

PLANT TYPE: Annual

SCIENTIFIC NAME: *Asparagus officinalis*

LIGHT: Full Sun

SOIL TYPE: Fertile, deep, well drained soil

pH RANGE: 6.5 - 6.7

MOISTURE/WATERING: Average; a flush of asparagus spears often follows a good rainfall

MATURE PLANT SIZE: 6 to 8 inches high

KNOWN PESTS: N/A

KNOWN DISEASES: Rust

OVERVIEW:

Asparagus is a member of the lily family and it is not an easy vegetable to grow. Patience is a virtue with asparagus. It is just about impossible to grow from seed so I would advise you purchase 1-year-old asparagus crowns, which are the roots of the plant. These are planted in a trench with the roots spread out over mounded soil. The trench is gradually filled in as the plants grow. It takes about four years for asparagus plants to mature enough for harvesting - if you start from seed. Prior to that asparagus plants should be allowed to grow and feed themselves.

PROPAGATION / SOWING:

Sow indoors 8 weeks before last frost, 1/4" deep at 25 degrees C (77 degrees F). Germination will occur in 10-14 days. Sow outdoors, 3 weeks before last frost, 1/4-1/2" deep and 1" apart. Thin or space asparagus plants to 18" apart in trenches 8-12" deep. As the asparagus seedlings grow, fill the trench back in.

COMPANION PLANTING:

Basil, calendula, parsley, tomato.

CARE & GROWING:

Choose a sunny location with a fertile, deep, well drained soil. Soil pH should be between 6.5-6.7. Asparagus is a heavy feeder and needs regular fertilizing with well rotted manure, compost or a well balanced synthetic fertilizer worked in the top surface of the soil. Use straw mulch to control weeds and hold moisture.

HARVESTING:

Asparagus plants from seeds will take 4 years before you can harvest spring spears. In early spring, cut or snap asparagus spears when they are 6-8" high, before the heads separate.

NOTES:

Growing strong healthy asparagus plants or resistant cultivars helps prevent the onset of Rust disease.



BUSH BEANS

PLANT TYPE: Annual

SCIENTIFIC NAME: Phaseolus vulgaris

LIGHT: Full Sun

SOIL TYPE: Well-drained, deep sandy loam

pH RANGE: 6.5 - 7.5

MOISTURE/WATERING: Average

MATURITY IN DAYS: 70 - 75

KNOWN PESTS: Root maggots and cutworms

KNOWN DISEASES: Foliar disease, both fungal and bacterial

OVERVIEW:

No garden is complete without bush beans. There are many varieties of bush beans to choose from and every gardener is sure to find one to suit their tastes. Bush beans do well in almost any garden as they are not too fussy about soil. To ensure the best flavor, bush beans should be picked while still slender and no inner bean is well developed. For fresh bush beans all summer, plant every two weeks and pick frequently.

PROPAGATION / SOWING OF BUSH BEANS:

Direct seed bush beans after risk of frost when soil warms to 18-24°C (65-75°F). Sow bush beans 1" deep and 2" apart in rows 18" (bush beans) to 24" apart (shell beans). Reseed until mid summer for a constant supply all season long. If using untreated bush beans seed, plant thicker and thin to desired density. Use Garden Inoculant at the time of planting to help boost soil fertility*.

COMPANION PLANTING OF BUSH BEANS:

Bush beans are excellent grown with most vegetables except the onion family, basil, fennel, kohlrabi.

CARE & GROWING OF BUSH BEANS:

Both bush bean types require a full sun location, soil pH of 6.5-7.5, and well drained soil. Good air circulation around bush bean plants is essential, especially for late shelling or dry type beans, as they are very susceptible to fungal diseases which prevail later in the season. Bush beans are light feeders; compost or well rotted manures worked into the soil at the time of planting is sufficient.

HARVESTING OF BUSH BEANS:

Use maturity days as an indicator. Harvest once the bush beans are smooth, firm and crisp. Keep bush beans constantly picked to ensure a fresh supply. Bean formation in the pod is a sure sign of over-maturity. Dry & Shell Beans: Harvest when the bush beans pods are completely dry and brittle. Cut or pull pods from bush bean plants and shell the beans. Store beans in an air tight container in a cool dry spot. For fresh eating of horticultural or shell beans, harvest when bean formation starts to take place within the pod.

NOTES:

* *Inoculant refers to a type of bacteria (Rhizobia bacteria) that grows on the roots of legumes (beans, peas, clover, alfalfa) to help produce nitrogen. Simply mix the inoculant in a bag with the seed until the seed is coated. Sow seeds and harvest an improved yield.*



BROAD BEANS

PLANT TYPE: Annual

SCIENTIFIC NAME: Vicia faba

LIGHT: Full Sun

SOIL TYPE: Rich well-drained, deep sandy loam

pH RANGE: 6.0 - 6.8

MOISTURE/WATERING: Average

MATURITY IN DAYS: 70 - 75

KNOWN PESTS: black-fly

KNOWN DISEASES: N/A

OVERVIEW:

Broad beans are easy to grow and are great for the novice and expert gardener alike. Broad beans require strong well manured soil. Sow on a sheltered border. The soil should be well drained. . Water well if weather is dry and keep weed free. The earlier broad beans are sown the less likely they are to become infested with black-fly.

PROPAGATION / SOWING:

Broad and Fava beans can be planted as soon as the soil can be worked. Broad beans prefer a moist, cool soil for growing and will tolerate light frosts. Sow 1-2" deep and 6" apart in rows 24-36" apart. If using untreated broad bean seeds, plant heavier and when sprouted, thin to desired density.

CARE & GROWING:

Broad beans are light feeders, requiring a well drained soil with a pH of 6.0-6.8. A onetime application of compost or well rotted manure will be sufficient. Pinching back the top of the broad bean plant when the first pods begin to form will provide a higher and more uniform yield. Large plants require support; hill soil up around the base of the broad beans as it grows.

HARVESTING:

Pick beans when pods appear plump.



LIMA BEANS

PLANT TYPE: Annual

SCIENTIFIC NAME: Phaseolus limensis

LIGHT: Full Sun

SOIL TYPE: Medium-rich, well-drained, deep sandy loam

pH RANGE: 6.5 - 7.5

MOISTURE/WATERING: Average

MATURITY IN DAYS: 70 - 75

KNOWN PESTS: Same as Bush Beans

KNOWN DISEASES: Same as Bush Beans

OVERVIEW:

Lima beans should be planted even later in the spring than bush beans because they are not as hardy. Lima beans should not be planted until well after the last frost. Lima beans also should not be planted as thickly as bush beans.

Lima beans (or any beans) should not be picked when wet or dew is on the plants. Lima beans are best preserved by freezing, although dried lima beans can be used in some recipes.

PROPAGATION / SOWING:

Direct seed lima beans after all danger of frost when the soil reaches 18-24°C (65-75°F). Sow 1" deep, 4-6" apart in rows 30-32" apart.

CARE & GROWING:

Lima beans need a sunny, warm spot with very well drained soil as lima beans prefer a dry soil and a long, warm growing season. For fertility and soil pH requirements, see regular bush beans as lima beans have similar needs.

HARVESTING:

Begin picking lima beans once the pods are well filled and beans are still tender. Pick regularly for continual yield.



POLE BEANS

PLANT TYPE: Annual

SCIENTIFIC NAME: Phaseolus vulgaris

LIGHT: Full Sun

SOIL TYPE: Medium-rich, well-drained, deep sandy loam

pH RANGE: 6.0 - 7.0

MOISTURE/WATERING: Average

MATURITY IN DAYS: 65 - 80

KNOWN PESTS: Black flies, aphids

KNOWN DISEASES: N/A

OVERVIEW:

Pole beans are among the few vegetables that add a sense of height to the garden. Pole beans can climb up stakes or fence supports, or even scale corn stalks. If growing space is limited, pole beans are the answer. While pole beans are planted later than snap beans, pole beans yield over a longer period of time and frequent picking encourages more production. Pole beans rarely need any assistance once they've started.

PROPAGATION / SOWING OF POLE BEANS:

Plant pole beans 2" deep on slight hills around poles or teepees spaced at 16" apart. Grow 4-8 seeds on each hill. Space pole beans 3" apart if growing on a fence. Sow after all danger of frost is over and the soil is warm, 18°C (65°F).

COMPANION PLANTING OF POLE BEANS:

Pole beans do well with carrot, corn, chard, pea, potato, eggplant. Avoid cabbage & onion family.

CARE & GROWING OF POLE BEANS:

Pole beans prefer an area with full sun and a rich, deeply worked soil with a pH level of 6.5. Pole beans are light feeders. The poles, teepees or a trellis should be erected after 2-4 leaves have developed. Hoe to kill weeds. A mulch of compost, or straw is beneficial to control weeds and hold moisture. Keep the plants well watered in dry weather, especially if they are grown on an upright trellis or poles against a shed or house where soil tends to dry out.

HARVESTING OF POLE BEANS:

Pick young, full size pods when smooth and crisp. Pole beans pods are over mature once the beans start to form. Harvest pole beans regularly for a constant supply. Scarlet Runner Pole beans will produce abundant, gorgeous red flowers if the beans are continually picked.



BEETS

PLANT TYPE: Annual

SCIENTIFIC NAME: Beta vulgaris

LIGHT: Full Sun

SOIL TYPE: Well-drained, deep sandy loam

pH RANGE: 6.2 - 6.8

MOISTURE/WATERING: Average

MATURITY IN DAYS: 70 - 75

KNOWN PESTS: Spinach Leaf Miner

KNOWN DISEASES: Leaf Spots

OVERVIEW:

No garden seems complete without beets. Beets are dark red and vigorous, beets have been a popular vegetable amongst gardeners for many years. Gardeners should sow beets early in the spring, or, for a second crop, after the hot summer weather is over.

Use the young, tender beet tops for fresh greens. Beets can be grated in salads, pickled, or baked and then skinned and served with fresh dill. Beets can be preserved by canning or freezing and they retain their taste and texture very well. To retain the color and nutrients in beets, don't cut the tip of the root and leave at least an inch of the top stem intact - this will also keep beets from "bleeding."

PROPAGATION / SOWING:

Sow beet seeds thinly 1/2-1" deep in rows spaced 8-12" apart. Soil temperature should be 18-24 degrees C (65-75 degrees F) for optimal germination. Thin beet seedlings 1" apart for greens and 3" apart for summer use of roots. Plant beets every two weeks, starting as early as soil can be worked until late June.

COMPANION PLANTING FOR BEETS:

Bush beans, cabbage family, corn, leek, lettuce, onion, radish.

CARE & GROWING OF BEETS:

Choose a full sun location. Beets require a light, well-drained, cool soil with a pH between 6.2 and 6.8. Compost or well-rotted manure along with pure wood ashes, as a supply of additional potassium, should be mixed well into the soil prior to planting. Applying Boron after 4-6 weeks of growth will prevent internal browning, particularly in dry seasons. Keep beets well-watered as drought will result in tough or woody beets.

HARVESTING:

Young and tender beet leaves can be used as greens. Dig or pull beet roots when 2-3" in diameter or desired size.



BROCCOLI

PLANT TYPE: Annual

SCIENTIFIC NAME: Brassica oleracea var. italica

LIGHT: Full Sun

SOIL TYPE: light, dry, well-drained soil

pH RANGE: 6.0 - 6.8

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 65 -70

KNOWN PESTS: Cabbage worms and loopers

KNOWN DISEASES: Head rot and downy mildew

OVERVIEW:

Broccoli seed should be sown early in spring so the heads mature before hot weather. Broccoli is high in Vitamins A and C and is also considered to be a cancer-fighting food.

PROPAGATION / SOWING:

Plant broccoli seeds 1/4 - 1/2" deep. Transplant or thin small broccoli plants to 15-18" apart in rows 32-36" apart. Broccoli transplants can be started in April for May planting. Transplant after 4-6 weeks. Use a starter fertilizer, soaking the root ball thoroughly prior to transplanting. Direct seed broccoli in late spring, as seedlings can tolerate a light frost. Broccoli can be direct seeded up until mid-late June for a continuous harvest. Soil temperature should be 21-26 degrees C (70-80 degrees F) for optimal germination in 4-7 days.

COMPANION PLANTING:

Bush bean, beet, carrot, celery, chard, cucumber, dill, lettuce, onion family, potato, spinach, tomato.

CARE & GROWING OF BROCCOLI:

Broccoli prefers full sun, but will tolerate part shade. Prepare a rich, loose soil that holds moisture well and has a pH level of 6.0-6.5. Broccoli is a heavy feeder and will also benefit from applications of Boron, calcium and magnesium, particularly during the early stages of growth. Hollow stem in broccoli is related to boron deficiency.

HARVESTING BROCCOLI:

Harvest when the broccoli buds of the head are firm and tight, cutting 5 to 10 inches down on the stalk. This will promote the growth of side shoots which will provide an abundance of smaller broccoli heads over a long period.

BROCCOLI PESTS & DISEASES:

Broccoli can and often does get attacked by Cabbage worms and loopers (via white and yellow butterflies - inspecting your broccoli plants daily and simply picking off these worms and loopers is very effective - and natural). Use row covers to block out all insects including root maggots, aphids and Diamondback moths. Maintaining a soil pH of 6.8 and higher will discourage club root. Fungal and bacteria diseases such as head rot and downy mildew can be prevented by allowing good air circulation and avoiding a mid August maturity when the air humidity is higher. Strong healthy broccoli plants growing in an organically rich soil will be better able to fight disease.



BRUSSELS SPROUTS

PLANT TYPE: Annual

SCIENTIFIC NAME: Brassica oleracea var. gemmifera

LIGHT: Full Sun

SOIL TYPE: Well Drained Loam, high organic matter

pH RANGE: 6.0 - 6.5

MOISTURE/WATERING: Keep moist, not waterlogged.

MATURITY IN DAYS: 80 - 100

KNOWN PESTS: Cabbage worms and loopers

OVERVIEW:

Brussels sprouts resemble miniature heads of cabbage, but are actually buds that grow in the angle between the leaf bases and the stem. Depending on the variety of brussels sprouts plant, the plant can grow to three feet in height and produce sprouts almost two inches in diameter. Brussels sprouts colour ranges from light green through to dark green and red.

Brussels sprouts are an excellent source of vitamins A, B, C, E, calcium, potassium, and sulfur. Brussels sprouts are also high in carbohydrates and dietary fiber. They are best after the first frost when quickly steamed, boiled, or stir-fried. Brussels sprouts can be served alone or with a sauce, but they are not good to eat raw.

PROPAGATION / SOWING OF BRUSSELS SPROUTS:

Plant brussels sprouts seeds $\frac{1}{4}$ - $\frac{1}{2}$ " deep. Transplant or thin small plants to 15-18" apart in rows 32-36" apart. Brussels sprouts transplants can be started in April for May planting. Transplant after 4-6 weeks. Use a starter fertilizer, soaking the root ball thoroughly prior to transplanting. Direct seed brussels sprouts in late spring, as seedlings can tolerate a light frost. Brussels Sprouts can be direct seeded up until mid-late June for a continuous harvest. Soil temperature should be 21-26°C (70-80°F) for optimal germination in 4-7 days.

CARE & GROWING OF BRUSSELS SPROUTS:

Brussels Sprouts prefers full sun, but will tolerate part shade. Prepare a rich, loose soil that holds moisture well and has a pH level of 6.0-6.5. Brussels Sprout is a heavy feeder and will also benefit from applications of boron, calcium and magnesium, particularly during the early stages of growth.

HARVESTING OF BRUSSELS SPROUTS:

To encourage development of the upper sprouts, pinch out the growing tip of the brussels sprouts plant in late summer. Harvest sprouts as needed from the bottom of the stalk when they are about 1-1½" in diameter. The brussels sprouts will develop a sweeter flavour after a few light frosts.



CABBAGE

PLANT TYPE: Annual

SCIENTIFIC NAME: Brassica oleracea var. capitata

LIGHT: Full Sun

SOIL TYPE: Rich, well-drained soil

pH RANGE: 6.0 - 6.5

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 90 - 95

KNOWN PESTS: Cabbage worms

OVERVIEW:

Cabbages thrive when planted with herbs such as dill, mints, rosemary, thyme, and chamomile. Cabbage also grow well with other vegetables and are good companions to onions, garlic, peas, celery, potatoes, broad beans, and beets.

Cabbage contains more vitamin C than oranges, as well as a large number of minerals, including iodine, sulfur, calcium, magnesium, and potassium. The outer leaves of cabbage contain more Vitamin E and calcium than the inner leaves.

PROPAGATION / SOWING OF CABBAGE:

Plant cabbage seeds ¼-½" deep. Transplant or thin small cabbage plants to 15-18" apart in rows 32-36" apart. Cabbage Transplants can be started in April for May planting. Transplant after 4-6 weeks. Use a starter fertilizer, soaking the root ball thoroughly prior to transplanting. Direct seed in late spring, as seedlings can tolerate a light frost. Cabbage can be direct seeded up until mid-late June for a continuous harvest. Ideal soil temperature for cabbage should be 21-26°C (70-80°F) for optimal germination in 4-7 days.

CARE & GROWING OF CABBAGE:

Cabbage prefers full sun, but will tolerate part shade. Prepare a rich, loose soil that holds moisture well and has a pH level of 6.0-6.5. Cabbage is a heavy feeder and will also benefit from applications of boron, calcium and magnesium, particularly during the early stages of growth. To help deter Cabbage worms, use row covers in the earlier part of the growing season - this will prevent moths from laying eggs on the plant. It also helps to manually remove cabbage worms if visible.

HARVESTING OF CABBAGE:

Cabbage Heads are ready when firm and when the interior is dense. Heads will split when over mature; rapid growth due to excess moisture and fertility will also cause splitting.



CARROTS

PLANT TYPE: Annual

SCIENTIFIC NAME: *Daucus carota* var. *sativus*

LIGHT: Full Sun

SOIL TYPE: Medium rich, well-drained, deep sandy loam

pH RANGE: 6.5

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 65 - 85

KNOWN PESTS: Root maggots/Rust Flies

KNOWN DISEASES: Aster Yellows

OVERVIEW:

No garden should be without carrots. Sow carrot seeds early in spring as soon as the ground is workable. Carrot seeds need to be kept evenly moist as they are slow to germinate, sometimes taking several weeks.

Carrots have their best flavour when they are deeply colored and fully matured. Harvesting doesn't have to be done all at once, as carrots do very well when left in the ground. Carrots are very high in vitamin A and good raw or cooked.

PROPAGATION / SOWING OF CARROTS:

Sow carrot seeds ¼-½" deep. Carrots seed takes 14-21 days to germinate. Planting a few radish seeds helps to loosen the soil and mark the rows for slow emerging carrot seeds. Thin carrot plants to at least 1" apart in rows spaced 18-24" apart. Sow carrots as soon as ground can be worked. Even moisture and soil temperature, 18-24°C (65-75°F) is essential for good carrot germination.

COMPANION PLANTING OF CARROTS:

Bean, Brussels sprouts, cabbage, chive, leaf lettuce, leek, onion, pea, pepper, radish, tomato.

CARE & GROWING OF CARROTS:

Carrots are best grown in full sun but will tolerate light shading. Choose deeply-worked, stone free soil with a pH of 6.5. Chantenay type carrots are suitable for shallow or heavy soils. Raised beds or rows are recommended. Carrots are light to moderate feeders. Avoid using fresh animal and green manures at the time of planting. Moisture is required for good carrot root formation.

HARVESTING OF CARROTS:

Carrots can be harvested throughout their growth cycle. If you thin your carrots out in stages, you will enjoy an abundance of baby carrots that are great in salads.



CAULIFLOWER

PLANT TYPE: Annual

SCIENTIFIC NAME: Brassica oleracea var. botrytis

LIGHT: Full Sun

SOIL TYPE: Well-drained, high organic matter

pH RANGE: 6.0 - 6.5

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 50 - 80

KNOWN PESTS: N/A

KNOWN DISEASES: N/A

OVERVIEW:

Cauliflower is not easy to start from seed in the garden so it is best planting seeds in a hot bed or flats early in spring. Transfer the cauliflower to the garden when the plants are about 4 to 5 inches high. To keep cauliflower heads white, pull some of the larger leaves up over the heads and fasten with a rubber band or string. Cauliflower likes a rich soil and moisture and monthly feeds with a nitrogen-rich fertilizer will help. Harvest cauliflower when heads are still white for the best flavor.

PROPAGATION / SOWING OF CAULIFLOWER:

Plant cauliflower seeds $\frac{1}{4}$ - $\frac{1}{2}$ " deep. Transplant or thin small plants to 15-18" apart in rows 32-36" apart. Cauliflower transplants can be started in April for May planting. Transplant after 4-6 weeks. Use a starter fertilizer, soaking the root ball thoroughly prior to transplanting. Direct seed cauliflower in late spring, as seedlings can tolerate a light frost. Cauliflower can be direct seeded up until mid-late June for a continuous harvest. Soil temperature should be 21-26°C (70-80°F) for optimal germination in 4-7 days.

CARE & GROWING OF CAULIFLOWER:

Cauliflower prefers full sun, but will tolerate part shade. Prepare a rich, loose soil that holds moisture well and has a pH level of 6.0-6.5. Cauliflower is a heavy feeder and will also benefit from applications of boron, calcium and magnesium, particularly during the early stages of growth.

HARVESTING OF CAULIFLOWER:

As small heads form, break over or tie together some of the tall leaves to protect heads from sun burning. Cauliflower is ready for harvest when heads are firm and still tightly clustered and adequately sized.



CELERY

PLANT TYPE: Annual

SCIENTIFIC NAME: *Apium graveolens* var. *dulce*

LIGHT: Full Sun

SOIL TYPE: Well-drained, high organic matter

pH RANGE: 6.5

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 90 - 120

KNOWN PESTS: Aphids

KNOWN DISEASES: Aster Yellows

OVERVIEW:

Celery is a cool-weather crop and prefers a rich, moist but well-drained, deeply prepared soil with a pH of 6.0 to 6.5. Ensure moisture retention by adding plenty of compost or well-cured manure. Prepare the celery row a week or two before setting the plants.

The most common mistake with celery is not allowing enough time for growing. About a minimum of 90 days are required to grow good celery plants. Celery seed is small and germinates slowly. Start seeds for transplanting several weeks before you expect to plant celery in your garden.

PROPAGATION / SOWING:

Start celery indoors 10 weeks before last frost. Soak celery seed for 24 hours, scatter seeds on soil mix and lightly cover with 1/8" of soil, as light is needed for germination along with a soil temperature of 21°C (70°F) and constant moisture. Celery will take 7-14 days to germinate. When seedlings are about 1" tall, transplant to individual pots. Transplant celery after all risk of frost, spacing about 6-9" apart in rows 24-32" apart.

COMPANION PLANTING:

Everything *expect* carrot, parsley, dill and parsnip.

CARE & GROWING:

Full sun required. Celery is a heavy feeder and grows best in soil rich in organic matter with a pH of 6.5. Before planting add plenty of compost and rotted manure. Celery has a shallow root system. To conserve moisture and cut back on weeds, mulch around the plants and water during dry spells. Lack of boron may cause stem cracking. Blanching is not necessary but it does improve flavor.

HARVESTING:

Young celery stalks on the outside of the plant can be harvested anytime. The entire celery plant is harvested once a desirable size is reached, remembering celery has a long maturity of 100-120 days. For best flavour and longer storage, water celery plants the day before harvest.



CORN

PLANT TYPE: Annual

SCIENTIFIC NAME: Zea mays var. rugosa

LIGHT: Full Sun

SOIL TYPE: Rich, well-drained, deep sandy loam

pH RANGE: 6.0 - 6.5

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 70 - 80

KNOWN PESTS: Earworm, corn borer

KNOWN DISEASES: N/A

OVERVIEW:

Corn, like sunflowers, make a great backdrop to any garden. This popular plant has probably inspired more home gardens than any other vegetable. Corn is a worthwhile vegetable for any garden, and fresh corn on the cob is delicious!

Plant corn in the northern part of your garden (or any location that does not block the sun for other plants) after all danger of frost is past in well-fertilized soil. Corn may need additional water to make quality ears during a dry summer. Very hot weather can also have a negative effect on pollination of corn. For a continuous crop, stagger plantings a few weeks apart or choose corn varieties with different maturities.

PROPAGATION / SOWING OF CORN:

Corn is wind pollinated, so it must be planted in a block of several rows for even pollination. Sow corn seed 3-4" apart and about ½-1" deep in rows 24-32" apart. Thin the corn seedlings to 10-12" as ears will be greatly reduced in size or not form at all on crowded plants. Ornamental corn must be isolated from sweet corn. Planting corn in cool soil will set back seedlings, especially if a frost is still possible. Best to plant corn when the soil has warmed to 21-24°C (70-75°F). Plant several different varieties of varying maturities to ensure a longer season of harvest.

COMPANION PLANTING OF CORN:

Bush bean, beet, cabbage, cantaloupe, cucumber, parsley, pea, early potato, pumpkin, squash.

CARE & GROWING OF CORN:

Full sun is required. Corn is a heavy feeder and requires fertile, well-drained soil with a pH of 6.0-6.5. Prepare the soil by working in well-rotted manure or other organic matter. A side dressing of nitrogen, applied when corn plants are about knee high, will give corn an added boost in growth. Try bloodmeal, partially rotted manure or a liquid fertilizer. Corn needs plenty of moisture. Hill soil around the base of the plant when they are 6" high. This will help to anchor the plants and keep the roots covered and cool. Use a mulch to keep down weeds and conserve moisture.

HARVESTING OF CORN:

Corn is ready when the ears are completely filled and a pierced kernel shows a milky white liquid. A good sign of corn cob readiness is when the silk turns brown and crisp.



CUCUMBER

PLANT TYPE: Annual

SCIENTIFIC NAME: Cucumis sativus

LIGHT: Full Sun

SOIL TYPE: Well-drained, moderate-high organic matter

pH RANGE: 5.5 - 7.0

MOISTURE/WATERING: Keep moist, not waterlogged; mulch helps maintain moisture

MATURITY IN DAYS: 55 - 65 after transplant

KNOWN PESTS: Striped or spotted cucumber beetles

KNOWN DISEASES: Powdery Mildew, bacterial wilt

OVERVIEW:

Cucumbers are best grown grouped into 3 or 4 plants in a single hill. If planted in rich soil, cucumbers will grow very quickly. Unless you plan on eating lots of cucumbers, plant sparingly as one hill will produce well. If space is limited select a cucumber variety that will climb well and use a trellis.

Pick cucumbers while young and tender to avoid any bitterness. Cucumbers are used mainly in salads and many varieties of pickles.

PROPAGATION / SOWING OF CUCUMBERS:

Sow cucumbers indoors 3-4 weeks prior to last frost or direct seed after all risk of frost. For indoor planting use 2 inch square jiffy strip pots and plant 1-2 seeds per square; thin to ensure one cucumber plant per pot. Plant cucumber seeds ½-1" deep, transplant or space plants 6" apart in rows 4-6" apart. Cucumber Plants are tender, so soil should be warm, 18-24°C (65-75°F) for germination to begin. If growing on a trellis, space plants 18" apart. Plant 3 to 4 cucumber plants per hill for effective pollination.

COMPANION PLANTING OF CUCUMBERS:

Bush bean, cabbage family, corn, dill, eggplant, lettuce, radish, pea, tomato are all good companions for cucumbers.

CARE & GROWING OF CUCUMBERS:

Cucumbers require full sun. As they are heavy feeders, an application of compost or well rotted manure worked into the planting area will help. Regular applications of a complete soluble fertilizer during the growing season is beneficial. Cucumber plants should not be allowed to wilt. Make sure cucumbers are well watered before transplanting. Spread a mulch around plants before they start to vine, to cut down on weeds and conserve moisture. The mulch will also help to keep the fruit clean.

HARVESTING OF CUCUMBERS:

Pick slicing cucumbers when they reach 6-8" long; pickling cucumbers at 3-5". Keep mature cucumbers picked off the vines to encourage a longer, abundant yield. Harvest cucumbers for pickling early in the morning.



KALE

PLANT TYPE: Annual

SCIENTIFIC NAME: Brassica oleracea var acephala

LIGHT: Full Sun

SOIL TYPE: Organically rich soil, well-drained

pH RANGE: 6.0 - 7.0

MOISTURE/WATERING: Average

MATURITY IN DAYS: 55 - 60

KNOWN PESTS: Cabbage worms and loopers, root maggots, aphids and Diamondback moths

KNOWN DISEASES: Head rot and downy mildew

OVERVIEW:

Kale does not do well in hot weather, but doesn't mind the cold. Depending on your climate kale can also be sown in October for spring use if covered with straw during the winter. Kale is rich in Vitamins A and C, high in potassium, calcium and iron, and is a good source of fiber. Kale maintains flavor best when frozen. Kale is also great in salads.

PROPAGATION / SOWING OF KALE:

Plant kale as soon as the ground can be worked, very frost tolerant. Sow $\frac{1}{4}$ - $\frac{1}{2}$ " deep, 1" apart in rows 18-30" apart. Thin seedlings to 8-12" apart. Kale germinates easily in cool or warm soil temperatures with even moisture.

COMPANION PLANTING OF KALE:

Bush bean, beet, celery, cucumber, lettuce, onion, potato.

CARE & GROWING OF KALE:

Choose an area with full sun and a soil pH of 6.0-7.0. Enrich the soil with compost or well rotted manure. Flavour of kale is improved if the plants grow quickly. Kale benefits from additional feedings of liquid fertilizer during the growing season.

HARVESTING OF KALE:

Kale leaves can be used at any time for salads or as garnishes. Leaves are "cropped", leaving the bud to grow new leaves, or the entire kale plant is harvested at one cutting. For a fall crop, wait until the kale plants are touched by a frost to sweeten the taste.

KALE PESTS & DISEASES:

Cabbage worms and loopers on kale (white and yellow butterflies) can be decreased with the use of row covers to block out all insects including root maggots, aphids and Diamondback moths. Maintaining a soil pH of 6.8 and higher will discourage club root. Fungal and bacteria diseases on kale such as head rot and downy mildew can be prevented by allowing good air circulation and avoiding a mid August maturity when the air humidity is higher. Strong healthy kale growing in an organically rich soil will be better able to fight disease.



LETTUCE

PLANT TYPE: Annual

SCIENTIFIC NAME: Lactuca sativa

LIGHT: Full Sun in spring/fall, partial shade in summer

SOIL TYPE: Rich, well-drained, loose loam.

pH RANGE: 6.2 - 6.8

MOISTURE/WATERING: Keep moist, not waterlogged, frequent short watering is best

MATURITY IN DAYS: 45 - 55

KNOWN PESTS: slugs, aphids, plant bugs and leaf hoppers

KNOWN DISEASES: N/A

OVERVIEW:

Leaf and Romaine Lettuce grows best in a well-worked soil that is not too wet. This can sometimes be difficult to achieve when the ground is very moist in the early part of the season. Lettuce seed won't germinate when soil and air are hot, so a good way to start would be starting lettuce in hot beds and then transplanted outside. Use these lettuce thinnings in the first spring salad. Successive plantings will ensure lettuce through the entire season. Be sure to keep lettuce bed evenly moist and harvest regularly to keep lettuce plants from bolting and becoming bitter.

PROPAGATION / SOWING OF LEAF LETTUCE:

Direct seed head lettuce in early spring, as seed will germinate between 40-80°F. Sowing thinly ¼" and 1" apart.

LETTUCE SPACING:

Leaf lettuce types - 6" apart with 12" rows; Iceberg lettuce - 12" apart with 18" row spacing; Romaine lettuce - 8-10" apart with 12-16" rows Butterhead/Batavia lettuce - 10-12" apart with 12" row spacing. Start lettuce transplants indoors 4-6 weeks before last frost date for transplants. Make succession plantings every 1-2 weeks to ensure a constant harvest.

COMPANION PLANTING FOR LEAF LETTUCE:

Head Lettuce does well with most vegetables, carrot, garlic, onion and radish make the best companions.

CARE & GROWING LEAF LETTUCE:

Choose an area with full sun to partial shade and a soil pH of 6.2-6.8. Lettuce is a heavy feeder and prefers a rich, well cultivated soil with good drainage. Some success can be expected even in poor soils using the loose-leaf lettuce types. Add plenty of compost or well rotted manure prior to planting lettuce. lettuce benefits from regular feedings with a nitrogen rich fertilizer. Mulching is useful to keep soil cool and reduce weeds.

HARVESTING LEAF LETTUCE:

Harvest lettuce early in the morning after dew is evaporated. Loose-leaf types can be picked as soon as leaves are large enough to eat.



ONIONS

PLANT TYPE: Annual

SCIENTIFIC NAME: Allium cepa

LIGHT: Full Sun - green onions tolerate partial shade

SOIL TYPE: Rich, well-drained loam

pH RANGE: 6.0 - 7.5

MOISTURE/WATERING: Keep moist, not waterlogged

MATURITY IN DAYS: 85 - 95

KNOWN PESTS: Onion maggots

KNOWN DISEASES: Storage Rot

OVERVIEW:

Onions grow best in rich soil that drains well. But, onions will also grow in sandy or clay soils that have been built up with organic material.

Onion seed should be planted as soon as the soil can be worked, depending on spring weather. Onions can be planted until mid June - depending on your climate. Since onion seedlings are fairly tolerant to cold, they survive in the soil in cold weather as long as the ground does not freeze. I have found that planting onions in slightly raised rows has produced good results with nice sized bulbs.

PROPAGATION / SOWING:

Plant onion seed as soon as the soil can be worked in the spring. Onion seed germinates in a wide range of soil temperature, 18-29°C (65-85°F). Sow and cover onion seed with ½" of soil and keep moist. Onions can be started indoors 6-8 weeks prior to planting in the spring. Thin or transplant to 3-4" apart in rows 18-24" apart. To plant onion sets, simply press sets into the soil about 2" apart. Later thin to about 4-6" apart to allow bulbs to mature. Bunching onions can be left at 1-1½" apart. Space shallots 1" apart in rows 4" apart.

COMPANION PLANTING:

Onions do well with beets, cabbage family, carrot, kohlrabi, lettuce, parsnip, pepper, spinach, strawberry, tomato, turnip.

CARE & GROWING:

Onions benefit from full sun, a soil pH of 6.0-7.5 and a well drained soil with plenty of compost or well rotted manure added. Feed onions with a complete balanced fertilizer during the growing season, particularly when the bulbs start to form.

HARVESTING:

Bunching onions are used when young and green. To harvest storage onions: when onion tops begin to fall over, turn brown and wither, it is time to harvest. Tipping bulbs over to break some of the roots will speed drying. Pull and place onions in dry, warm airy location out of direct sun for up to 3 weeks to cure. After curing process is complete, store in cool, dry location. The drier the onions, the better they store.



ONION PESTS & DISEASES:

Storage rot may be the result of diseases encountered during the growing season. Make sure onions are thoroughly cured before storing. Onion maggots are common and can be a serious problem. Onion maggots are the result of onion flies laying eggs on the onion plant or soil at the base of the onions. Removal of **all** onions and culls after the onions have been harvested leaves no food for the onion maggots to live on over the winter and early spring. Use row covers early in the growth cycle to prevent flies from depositing eggs on young stems and soil.

If you discover onion maggots, remove infected plants and discard in garbage - not in the compost or near the garden. One or two infected onion plants does not mean all is lost, but you must watch carefully and remove any plants with wilting or discoloured culls. If you catch them early enough, you may be able to save a good part of your harvest. It is a good practice to remove any onion next to an infected onion until and so on until only good onions remain (yes, you will lose a few good onions, but this is better than losing all of them) - this will help insure you do not leave infected onions in the ground allowing the onion maggots to move on and infect more of your onion crops. Before storage, inspect onions carefully for signs of rot and infestation as the maggots will continue to eat the onion resulting in storage rot. Plant onions (and garlic or related plants) in a completely different area of your garden the following season.



PEAS

PLANT TYPE: Annual

SCIENTIFIC NAME: Pisum sativum

LIGHT: Full Sun

SOIL TYPE: Medium-rich, well-drained, high organic matter

pH RANGE: 6.0 - 7.0

MOISTURE/WATERING: Average

MATURITY IN DAYS: 55 - 70

KNOWN PESTS: N/A

KNOWN DISEASES: Root rot

OVERVIEW:

If there is one vegetable I remember most growing up, it is peas. Nothing beats picking some pea pods and tasting the fresh sweetness. Peas can be started as soon as the last major frost has passed. There are many varieties: all peas prefer a soil that is well-drained with limestone or wood ashes.

Pick peas on a regular basis to encourage more growth and a better harvest. Try not to get the plant wet when watering, instead, use a weeper hose or low level watering device. Harvest peas while young for the sweetest flavor. Peas retain their flavor best when frozen much better than when they are canned.

PROPAGATION / SOWING:

As peas can prefer cool growing conditions and will tolerate light frosts, they may be planted as soon as the ground can be worked and will germinate in a wide range of soil temperatures, 4-24°C (40-75°F). Sow pea seed 1 to 1½" deep, 1-2 inches apart in double rows spaced 3-6" apart, 24" between the next double row. Pea plants will tolerate crowding so may be spaced 2" apart. All peas, including dwarf types, are natural climbers, will be more productive, and not as susceptible to rot, if given some support or planted along a fence or trellis. Pea seed is available in both treated and untreated; if using untreated pea seeds, avoid planting in cold, wet, poorly aerated soils, as you risk losing the seed to rot.

COMPANION PLANTING:

Peas do well with Carrot, celery, corn, cucumber, eggplant, early potato, radish, spinach, pepper, turnip.

CARE & GROWING:

Peas prefer full sun to partial shade with a soil pH of 6.0-7.0. and require a well-drained, rich and sandy soil. Work organic matter, including rotted manure or compost into the soil for best results. An application of Garden Inoculant, either to the soil or to the pea seeds themselves before planting, can be very beneficial. Even soil moisture is essential especially during flowering and pod set. Use mulch to conserve moisture and keep weeds down around your peas.

HARVESTING:

For best tasting peas, harvest as pods become plump, but are still young and tender. Pick peas regularly to promote continued production. When you pick, is partially personal preference. If you prefer small, sweet peas, pick early. Experiment until you find which size and flavour you prefer.



POTATOES

PLANT TYPE: Annual

SCIENTIFIC NAME: Solanum tuberosum

LIGHT: Full Sun

SOIL TYPE: Well-drained with moderate organic matter

pH RANGE: 5.5 - 6.5

MOISTURE/WATERING: Uniform moisture, especially while tubers are developing

MATURITY IN DAYS: 90 - 110

KNOWN PESTS: Potato beetles

KNOWN DISEASES: Blight

OVERVIEW:

There is a large selection of potato varieties available. Potatoes vary considerably in shape, size, colour, cooking and eating qualities. Check with your local garden shop to see which potatoes are available for your soil (test if required). If you are not sure what type of potato you prefer, it is worth trying a few to see which best suits your soil, and your tastes. I have had good success adding a small amount of rough sawdust into the soil to retain moisture (good if your soil is heavy or dries out quickly). Make sure you don't use sawdust(chips) from a wood species known to carry toxic oils, like cedar or treated wood. To avoid introducing pests and diseases - plant good quality, certified seed potatoes.

PROPAGATION / SOWING:

Potatoes are tolerant of cool soil and frost, potatoes can be planted in late spring. Remove potato tubers from storage and warm to a temperature of 50-60°F, to enhance sprout formation. Small potato tubers (golf ball size) may be planted whole. Larger tubers can be cut into pieces weighing about 2 ounces each having at least 1-3 eyes. Seed pieces can be planted immediately after cutting, but will generally sprout and show better resistance to decay if, after cutting, are left in a cool, moist room with good ventilation for 3 days. Sow potato seed pieces 3-4 inches deep. Leave 10-12" between plants in rows 2-3 feet apart. Closer plantings can result in better yields, but with smaller potatoes. Do not plant potato tubers directly from cold storage.

COMPANION PLANTING:

Potatoes do well with bush bean, cabbage family, corn, parsnip, peas.

CARE & GROWING:

Grow potatoes in full sun with a soil pH of 5.5-6.5. Potatoes are heavy feeders which require deep fertile soil with good drainage. Mineral soils are best. Apply plentiful amounts of compost and well rotted manure. Fresh manure will promote development of scab organism. Lime should also be avoided at planting time. Maintain even moisture as interruptions in moisture will cause irregular growth spurts resulting in rough, knobby, malformed or cracked tubers. Hill plants when they are 1 foot tall, by hoeing up 6-8" of soil around the plant.

HARVESTING:

Early potatoes can be dug when tubers reach a useable size. This is often 2-5 weeks after flowering. Potatoes for storage crops should be left in the ground until light frosts or natural decline cause the tops to wither.



PUMPKINS

PLANT TYPE: Annual

SCIENTIFIC NAME: Cucurbita spp.

LIGHT: Full Sun

SOIL TYPE: Well-drained, high organic matter

pH RANGE: 5.5 - 6.5

MOISTURE/WATERING: Keep evenly moist, not waterlogged

MATURITY IN DAYS: 90 - 120

KNOWN PESTS: Striped and spotted cucumber beetles

KNOWN DISEASES: Powdery mildew

OVERVIEW:

No vegetable is more exciting to a child than the pumpkin. If you want to spark a child's interest in gardening, encourage them with their very own pumpkin patch. Theirs to nurture, care for and "weed". They may fuss a little when it is time to work, but when they see that pumpkin start to grow and then carve it at Halloween - they'll be hooked. Pumpkins grow quickly and can reach very large sizes - perfect for the kids. Of course, many adults get the same thrill from growing pumpkins.

Pumpkins benefit from a rich soil and a sunny location. For perfect pumpkins on Halloween place a good thick layer of straw underneath each pumpkin - this will keep moisture away from the pumpkin skin and produce better colour. Pumpkin is used in cooking for pies, cakes, bread and so on.

PROPAGATION / SOWING OF PUMPKINS:

Plant pumpkins after all danger of frost has past and when the soil has warmed to 21°C (70°F). For early plantings, use floating row covers to raise soil temperature, increase early growth and protect tender pumpkin plants from wind injury. Sow pumpkins 1" deep, 6" apart in rows 48-72" apart. Thin pumpkin plants to 24-36" apart. Plant vining pumpkins at the edge of the garden to prevent the plants from over-taking the entire site. Space bush type pumpkins 24" apart in rows 36-48" apart.

COMPANION PLANTING:

Pumpkins do well with celery, corn, onion, radish.

CARE & GROWING PUMPKINS:

Pumpkins prefer full sun and a soil pH of 5.5-6.5. Pumpkins are moderate feeders; prefer a rich loamy soil of good fertility and moisture retention. Mix plenty of organic matter into soil. Even and sufficient soil moisture is essential. Pumpkins benefit from mild feedings with a fertilizer high in phosphorous to initiate fruit formation.

HARVESTING PUMPKINS:

Harvest pumpkins before a killing frost or when pumpkins are deep orange in colour. Simply cut pumpkins from the vine leaving 4-6" of stem attached to the fruit. Store in a cool, dry area.



RADISH

PLANT TYPE: Annual

SCIENTIFIC NAME: Raphanus sativus

LIGHT: Full Sun

SOIL TYPE: Well-drained, deep sandy loam

pH RANGE: 6.0 - 7.0

MOISTURE/WATERING: Moist but not saturated

MATURITY IN DAYS: 25 - 35

KNOWN PESTS: Flea beetles

KNOWN DISEASES: N/A

OVERVIEW:

Radish is another perfect vegetable for kids. They are fast-growing, colorful, like to be watered and are easy to harvest - not many kids like to eat them though.

Radishes do not like hot, dry weather. Radishes also grow very fast and need a lot of moisture. Their flavor will be "hotter" in hot weather and milder in cool. Unless you consume huge amounts of radishes, there is no need to dedicate a specific spot in the garden to radishes. Use radishes to mark the start and ends of other rows of plants. plant at different times and grow radishes throughout the garden and you will have a steady supply all season. Radishes are used mainly in salads and as a garnish.

PROPAGATION / SOWING OF RADISH:

Begin sowing radish as soon as the ground can be worked. Radish does best in the spring and fall when the soil is cool, 4-18°C (45-65°F) and the days are short. Summer production of radish may not be as uniform. Sow radish ½" apart and ¼" deep in rows 12-18" apart. Thin radishes to approx. 35 seeds/ft. Make successive sowings every 5-7 days to keep a constant supply of fresh radish all season.

COMPANION PLANTING OF RADISH:

Lettuce, bean, beet, carrot, parsnip, pea, spinach. Radish improves the flavour of lettuce.

CARE & GROWING OF RADISH:

Radish requires full sun location, with a pH of 6.0-7.0. Radishes are extremely light feeders; no special soil preparation is required. Sufficient water is essential as the faster the radish grows, the better the flavour. Plant radish in rows with slow germinating seeds like carrots, parsnip and beets to help break the soil and aid in the germination of the slower seeds.

HARVESTING OF RADISH:

Harvest radishes as soon as roots reach a desired size, 20-25 days.

RADISH PESTS & DISEASES:

Radishes may be attacked by flea beetles, small, shiny, hopping insects that leave small holes in the leaves. Avoid planting too early, use row covers or Rotenone dust to control insects. Also, planting with taller growing companions will help to hide the plants from insects.



SQUASH & ZUCCHINI

PLANT TYPE: Annual

SCIENTIFIC NAME: Cucurbita pepo - Summer | Cucurbita spp. - Winter

LIGHT: Full Sun

SOIL TYPE: Medium-rich, well-drained soil

pH RANGE: 5.5 - 6.5

MOISTURE/WATERING: Average

MATURITY IN DAYS: 50 - 60 from transplant

KNOWN PESTS: Striped and spotted cucumber beetles

KNOWN DISEASES: Powdery mildew

OVERVIEW:

Squash plants, which includes zucchini, are best known for the ease at which they can be grown, making any novice gardener look like a pro. Squash prefer soil with lots of organic matter such as aged manure or compost. Harvest squash and zucchini while they are young and still shiny, and before their seeds are well-developed. The many varieties of squash are used in everything from appetizers to desserts. Squash are excellent sauteed or steamed and when used in casseroles, breads or cakes.

PROPAGATION / SOWING OF SQUASH:

Plant squash after all danger of frost has past or when the soil has warmed to 21-27°C (70-80°F) as seed will not germinate in cool soil. For early plantings, use floating row covers to raise soil temperature, increase early growth and protect tender plants from wind injury. Sow summer squash 1" deep, 6" apart, thinning to 12" apart in rows 36-48" apart. Sow winter or vining squash similarly, using a spacing of 24-36" between plants with 48-60" row spacing.

COMPANION PLANTING OF SQUASH:

Squash do well with celery, corn, onion, radish.

CARE & GROWING OF SQUASH:

Squash prefer full sun and a soil pH of 5.5-6.5. Squash are moderate feeders; mix plenty of organic matter into soil as squash prefers a rich loamy soil of good fertility and moisture retention. Even and sufficient soil moisture is essential. Squash benefits from mild feedings with a fertilizer high in phosphorous to initiate fruit formation.

HARVESTING OF SQUASH:

Harvest summer squash when they are 4-8" long and when their skin is still shiny. Winter squash can be cut later in the summer or early fall before frost, or when the skin is hard enough so that you can not cut it with your finger nail. Simply cut from the vine leaving 4-6" of stem attached to the fruit. Store in a cool, dry area.



SPINACH

PLANT TYPE: Annual

SCIENTIFIC NAME: Spinacia oleracea

LIGHT: Full Sun

SOIL TYPE: Well-drained, high organic matter

pH RANGE: 6.5 - 7.5

MOISTURE/WATERING: Even moisture, not waterlogged

MATURITY IN DAYS: 40 - 50

KNOWN PESTS: Leaf Miner

KNOWN DISEASES: N/A

OVERVIEW:

Spinach is mainly an early-spring and late-fall crop, but in some areas, where summer temperatures are mild, it may be grown continuously from early spring until late fall where temperatures changes are not severe.

Spinach will grow on almost any well-drained, fertile soil where sufficient moisture is available. Spinach is very sensitive to acid soil. If a soil test shows the need, apply lime to the part of the garden used for spinach, regardless of the treatment given the rest of the area. Use thinned spinach plants in salad - they are very nutritious and taste great!

PROPAGATION / SOWING OF SPINACH:

Spinach thrives in cool weather, so plant as soon as the soil can be worked or when soil temperatures are between 10-24°C. For a fall crop, plant spinach again in late August or early September. Sow spinach thinly, about ½" deep. Thin to 1-3" apart in rows 12" apart.

COMPANION PLANTING OF SPINACH:

Spinach does well with bush beans, cabbage family, celery, lettuce, onion, pea.

CARE & GROWING OF SPINACH:

Spinach prefer full sun to partial shade with a soil pH of 6.5-7.5. Spinach are moderate feeders require a fertile, well cultivated soil. Enrich soil with plenty of compost and some partially rotted manure or fertilizer high in nitrogen. Spinach needs even moisture for good growth. Drought and warm temperatures will cause premature bolting in spinach.

HARVESTING SPINACH:

Cut spinach as soon as leaves are big enough to eat. If spinach is looking old and tired, cut the entire plant back to 1" tall to stimulate young, tasty growth. If spinach showing signs of bolting, harvest the whole crop - it freezes well.



TOMATOES

PLANT TYPE: Annual

SCIENTIFIC NAME: Lycopersicon lycopersicum

LIGHT: Full Sun

SOIL TYPE: Medium-rich, well-drained loam

pH RANGE: 6.0 - 6.5

MOISTURE/WATERING: Moist, not waterlogged

MATURITY IN DAYS: 55 - 105

KNOWN PESTS: Cutworms, Flea beetles

KNOWN DISEASES: Blossom end rot, tomato blight

OVERVIEW:

Tomatoes are the champion of the garden, tomato are one of the most frequently judged vegetables in any garden. Tomatoes are also the number one vegetable to be entered into contests. For the earliest tomatoes, start growing tomato plants indoors and transplant to the garden after there is no longer a danger of frost.

Place individual tomato plants, including roots and dirt, in watered holes. Garden soil should be enriched with compost or aged manure. Use mulch while the tomato plants are still only a few feet tall to ensure moisture retention. For best results with your tomato plants, be sure to use a fertilizer with a high calcium content. This will help prevent blossom-end rot. Do not allow moisture levels to fluctuate too much - this will help prevent cracking. Water directly onto the soil, not the plant.

PROPAGATION / SOWING OF TOMATOES:

Tomatoes are tender plants and are very susceptible to frost damage. Start seeds indoors 6-8 weeks before the last frost date in your area. Sow 2-3 tomato seeds in 1x1" cells and thin to 1 plant after germination. Cover tomato seeds with ¼" soil and provide a constant soil temperature of 21-26°C (70-80°F). Once tomato plants are up, a growing light is necessary or seedlings will become tall and spindly. After tomato plants develop 1-2 sets of true leaves, transplant into 3x3" or 4x4" pots. Use a water soluble fertilizer every two weeks starting at half strength and increasing to full strength over 6 weeks. Tomato Seedlings benefit from waterings with Epsom salts, use 1 Tbsp of Epsom salts per gallon. Transplant tomatoes after all danger of frost has passed. When transplanting, space 24-36" apart with rows at least 36-48" apart.

COMPANION PLANTING OF TOMATOES:

Tomatoes do well with asparagus, basil, bush bean, cabbage family, carrot, celery, chive, cucumber, garlic, lettuce, onion, pepper.

CARE & GROWING OF TOMATOES:

Tomatoes prefer a full sun location with good air circulation. Soil pH of 6.0-6.5. Tomatoes are heavy feeders and prefer a warm, well drained soil of good fertility and cultivation. Add plenty of compost and well rotted manure prior to planting tomatoes. Feed regularly during the growing season with a compost tea or well balanced fertilizer. Avoid excessive nitrogen, particularly before fruit set. Provide even moisture during fruit set and development. Excessive watering can increase tomato size but decrease flavour.



HARVESTING OF TOMATOES:

Pick tomatoes when fruit is firm and turning red. Overripe tomatoes rot quickly.

TOMATO PESTS & DISEASES:

Protect tomatoes from cutworms by using protective collars around the plant stem or place cornmeal around plant base. Tomato blossom end rot (a brownish-black, sunken dead area that forms on the bottom of the fruit) is a condition caused by a calcium deficiency due to uneven watering. Tomato blight, another disease common to tomatoes is caused by warm, humid conditions particularly if tomato plants have not been given some support to keep foliage off the ground. Use copper or sulphur sprays to help prevent blight. Good air circulation along with proper rotation will help to prevent onset of this harmful disease.



ADDITIONAL USA GARDENER RESOURCES

GARDENING INFORMATION:

Complete List of Vegetables – Grow Guides:

http://usagardener.com/how_to_grow_vegetables/vegetable_growing_list.php

Herbs - Grow Guides:

http://usagardener.com/how_to_grow_herbs/herb_growing_list.php

Fruits & Berries - Grow Guides

http://usagardener.com/how_to_grow_fruits/fruit_growing_list.php

Flowers – Grow Guides:

http://usagardener.com/how_to_grow_flowers/flowers_annuals_perennials_list.php

USA Frost Dates:

http://usagardener.com/breaking_ground/frost_dates_usa.php

Canadian Frost Dates:

http://usagardener.com/breaking_ground/frost_dates_canada.php

For information on soil building and amendments visit:

http://usagardener.com/breaking_ground/how_to_make_good_soil.php

For information on fertilizer, manure and composting visit:

http://usagardener.com/breaking_ground/composting_manure_and_fertilizer.php

Weeds & How To Control Them:

http://usagardener.com/disease_pests_and_weeds/weeds_and_weeding.php

Garden Pests – Beneficial & Detrimental:

http://usagardener.com/disease_pests_and_weeds/garden_pests_and_control.php

Animals – Keeping Them Out of Your Garden:

http://usagardener.com/disease_pests_and_weeds/animal_intrusion_and_control.php

Gardening Glossary:

<http://usagardener.com/glossary.php>



RECOMMENDED TOP-RATED GARDEN EQUIPMENT & TOOLS

Mantis Tiller, a Lightweight, Hardworking Machine...

I highly recommend the Mantis Tiller. It is very well made, very versatile and will easily handle the average size garden, as well as container gardens – best of all, pricing starts at Just \$349.00 making it one of the least expensive available. For more information and usage videos visit:

<http://usagardener.com/resources/mantis.php>

The Best “DUAL” Compost Tumbler on the Market!

I’m not bias, I just like Mantis products, and this includes their dual bin compost tumbler system. While it is not the cheapest on the market, it is a proven and effective composter. It makes compost faster than most other tumblers and you can start the second bin a little later so that you always have useable compost on hand. The bins and rack are very well made and will last for many years. Pricing starts at \$499.00. For more information and usage videos visit:

<http://usagardener.com/resources/mantis-composter.php>

Keep Animals Out of the Garden With Sprinklers!

Get The Scarecrow Motion Activated Sprinkler

I bought 4 of these 3 years ago and still use them today. Living an area with lots of deer required an effective solution and let me tell you, these WORK GREAT! \$69.00 may seem expensive for a fancy sprinkler head but ***it will only take one gardening season without deer*** or other animals in your garden for these beauties to become your favorite garden accent – ***I won’t plant a garden without them!***

<http://usagardener.com/resources/scarecrow.php>

RECOMMENDED SEEDS & ORGANIC PEST CONTROL

Henry Fields - The Largest Selection of Seeds & Bulbs

Henry Fields boasts one of the largest selection of seeds and bulbs on the Internet. Their seeds and bulbs meet the highest standards and pricing is very reasonable.

Use the link below to receive \$20 off your first order of \$50 or more – Limited Time Offer!

<http://usagardener.com/resources/seeds-henryfield.php>

Arbico – Organic Pest Control

I personally don’t use chemicals in my garden. I have found that preparing good soil for growing strong plants, using beneficial insects and natural organic formulas work just fine. If you are looking for a very good supplier of both organic pest control products and beneficial insects, I encourage you to check out Arbico Organics.

<http://usagardener.com/resources/arbico-organics.php>

